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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/724,158

12/01/2003

Tapesh Yadav

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FOLEY AND LARDNER LLP

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EXAMINER

KOSLOW, CAROL M

ART UNIT

PAPER NUMBER

1755

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/724,158

Applicant(s)

YADAV, TAPESH

Examiner

C. Melissa Koslow

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status /

- 1) ☒ Responsive to communication(s) filed on 08 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 1 January 2007 has been entered.

The art rejection over U.S. patent 5,164,007 is withdrawn as indicated in the interview summary. The amendments to the claims have overcome the rejection to U.S. patent 6,110,266. Applicant's arguments with respect to the remaining rejections have been fully considered but they are not persuasive.

Applicant's comments with respect to support for the claimed subject matter in the provisional application are noted. The indicated sections do support the claimed subject matter, thus applicant's claim for domestic priority under 35 U.S.C. 119(e) is granted. The effective filing date for the claims is 1 February 2003.

Claims 1 and 29-39 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claimed definition of "composition of matter" in claim 1 is new matter. There is no specific teaching in the specification that the composition of matter comprises an article that is not a coating. The subject matter of claims 29-39 is not found in the specification and thus are new matter. There is no teaching of a multifunctional yellow pigment comprising cerium and at

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least one addition metal. The only cerium containing yellow pigment taught in the specification is cerium oxide. (Para [0094] and example 1). While example 2 and paragraph [0098] teach praseodymium doped cerium oxide buff to red pigments, this teaching does not support the claimed multifunctional buff to red pigments comprising praseodymium doped cerium. Example 3 teaches a blue pigment produced by vaporizing ammonium metatungstate and an organometallic tin compound. While the final product is not taught, from reading the rest of the specification, it is clear it is either a tungsten tin oxide, a tungsten tin nitride or a tungsten tin oxynitride. This example does not support the claimed multifunctional blue pigments comprising tungsten and tin. The teaching in paragraph [0094] and example 4 of bismuth oxide and bismuth vanadium oxide as yellow pigments does not support the claimed multifunctional yellow pigment of bismuth and at least one other metal. The teaching in paragraph [0096] and example 5 of calcium nickel aluminum oxide as a green pigment does not support the claimed multifunctional greenish pigment of aluminum, calcium and nickel. The teaching in example 7 of zinc copper iron oxide as a brownish pigment does not support the claimed brownish pigment of zinc, copper and iron. The teaching in paragraph [100] and example 8 of manganese iron oxide as a black pigments does not support the claimed multifunctional black pigment of iron and manganese. The teaching in example 9 of cerium boride as a grey pigment does not support the claimed multifunctional grey pigment of cerium boride and at least one other metal. The teaching in paragraph [0095] and example 10 of cobalt aluminum oxide as a dark blue pigment does not support the claimed multifunctional dark blue pigment of aluminum and cobalt. The teaching in example 11 of neodymium oxide as a light blue pigments does not support the claimed multifunctional light blue pigment of neodymium and at least one other metal. The teaching in

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example 12 of terbium oxide as a brown pigment does not support the claimed multifunctional brownish pigment of terbium and at least one other metal.

Claims 1-14 and 16-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 40 recites the limitation "the specific color wavelength". There is insufficient antecedent basis for this limitation in this claim or in claim 1. Claim 1 is indefinite since it is unclear what compositions of matter are encompassed by "composition of matter comprising articles that is not a coating". It is unclear if this claim includes or excludes. For example, it is unclear if the following are excluded or not: laminates or films, since the specification says these terms are used interchangeably with "coating"; coated articles since coated article comprise an article that is not a coating; plaster or cements, since materials can be in the form of a coating or cosmetics, which coat the skin. In addition, it is unclear as to what is meant by "article" since the materials of claims 2-9 are not articles, Finally, it is unclear if coating compositions are excluded or not since coating compositions, such as inks and paints, do not comprise articles that are not a coating.

For the purposes of the art rejections, the Examiner is interpreting "composition of matter comprising articles that is not a coating" as excluding coating compositions, such as inks or paints, but including articles coated with a composition comprising the pigment, such as painted surfaces.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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Claims 1-3, 8, 10, 12, 14, 18-22, 24, 25, 28 and 40 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 4,629,513.

This reference teaches a thermally stable zinc oxide/zinc ferrite pigment used to color ceramics and plastics, which are binders. Examples 1 and 2 teach the size of the pigment is 0.05 micron (50 nm), which is less a tenth of than the yellow wavelength range of 580 nm. This size range falls within defined particle size for the claimed nanopigments, which is less than 100 nm, and therefore one of ordinary skill in the art would expect the taught pigment to have a packing number that falls within the claimed range absent any showing to the contrary. The reference teaches the produced pigment is dried before it is added to the ceramics and plastics. Thus it teaches the process of claim 14. One of ordinary skill in the art knows that the pigment is mixed with the ceramic and plastic. One of ordinary skill in the art knows that the addition of inorganic pigments to a plastic will enhance the hardness and toughness of the plastic. Since the pigment contains ZnO, a known antimicrobial agent, it will improve the antimicrobial activity of the plastic or ceramic which contains it. The taught pigment is thermally stable, which suggests that it will improve the fire resistance of the plastic to which it is added. Thus the taught pigment is multifunctional. The reference teaches the claimed process.

Applicants' arguments have been considered but are not convincing since the reference teaches the pigment colors plastics and ceramics, not just surface coatings as argued. The rejection is maintained.

Claims 1, 2, 4, 8-10, 12, 16, 18-22 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. patent 6,139,618.

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This reference teaches an aluminum containing iron oxide hydroxide pigment, having a particle size of 0.005 to less than 0.1 micron (5 to less than 100 nm). This size range falls within defined particle size for the claimed nanopigments, which is less than 100 nm, and therefore one of ordinary skill in the art would expect the taught pigment to have a packing number that falls within the claimed range absent any showing to the contrary. The taught pigment improves the thermal resistance of the material to which it is added and thus also acts as thermal insulation. The pigment is used to color plastics such as rubbers and binders (col. 10, lines 47-col. 11, line 5), and building materials (col. 1, lines 14-18), which includes cements. The pigment is mixed with the plastics and the pigment is bonded with the cement. The reference teaches the claimed method.

Applicants argue that the taught pigment only contains iron. This is incorrect. The reference clearly teaches the pigment contains aluminum in an amount of 0.05-50 wt% in the core and 0.1-10 wt% aluminum in the coating on the core. The rejection is maintained.

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,139,618.

As stated above, this reference teaches a yellow pigment with a particle size of 5 nm to less than 100 nm. This range overlaps the claimed range of less than 58 nm, which is less a tenth of than the yellow wavelength range of 580 nm.. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). The reference suggests the claimed material.

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Claims 1-3, 5, 8-10, 12, 18-20, 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,485,557.

This reference teaches a manganese vanadium oxide pigments. The pigment reduces IR induced heat buildup, which means it also provides thermal insulation. The pigment is used to color plastics, rubbers, glass and ceramics. The pigment is mixed with the plastics, rubbers, glass and ceramics. The pigment has a particle size in the range of about 0.1-5 microns, which overlaps the claimed range of less than 100 nm, since “about 0.1” includes values which are less than 0.1 micron, or 100 nm. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). Therefore, one of ordinary skill in the art would expect the taught pigment to have a packing number that overlaps the claimed range absent any showing to the contrary.

The amendment to the claims did not overcome the rejection.

Claims 1, 2, 5, 10-12, 16, 18-21 and 24 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 6,060,154.

This reference teaches glass and plastic articles having a layer composed of pigments having a particle size of 100 nm or less. This size range falls within defined particle size for the claimed nanopigments and therefore one of ordinary skill in the art would expect the taught pigment to have a packing number that falls within the claimed range absent any showing to the contrary. The pigment can be combinations of iron oxides, titanium nitride and tantalum nitride (col. 2, lines 55-60). The taught nitrides will also act as enhance the hardness of the coating. The

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layered article is produced by apply the pigments to the glass and plastic article and bonding the pigments to the article. The reference teaches the claimed process.

Applicant's arguments are not convincing since the article is the composition of matter and it is not a coating. The rejection is maintained.

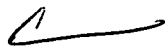
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
February 16, 2007


C. Melissa Koslow
Primary Examiner
Tech. Center 1700